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DR. WILLIAM THORNTON AND HIS ESSAY ON
"TEACHING THE DEAF, OR SURD, AND
CONSEQUENTLY DUMB, TO SPEAK,"
1793.

SKETCH OF THE LIFE OF WILLIAM THORNTON.¹

BY MARIAN H. GRAHAM BELL.

(Read before the Society by Alexander Graham Bell, LL.D., December
9, 1916.)

INTRODUCTION.

William Thornton, the author of the first American publication upon the teaching of the deaf, was born in the West Indies in 1761. His parents were English, and he himself was sent to England to be educated. He studied medicine in Edinburgh, under Dr. Brown, graduating in 1784, and then continued his studies in Paris. He also travelled extensively in Europe, but while still a young man he came to this country, and the year 1793 found him married to an American and settled in Washington, D. C. He was already a doctor of medicine, an architect, a painter, a writer, an inventor, and a philanthropist. An old notice says of him that "He was a scholar and a gentleman, full of talent and eccentricity," and quaintly adds that "his company was a complete antidote to dullness."

As an inventor he was much interested in all machines worked by steam, and he experimented with Fitch upon

¹ The writer is chiefly indebted for information to an article on Dr. Thornton by Glenn Brown, in the *Architectural Record* of Sept., 1896. See also *Annals* (I, 190) and *Cyclopedia of Political Science, Political Economy and United States History*, edited by John J. Lalor, 1884 (Vol. III, p. 126).—M. H. G. B.

steamboats before Fulton began his work. Thornton also contrived a means of converting sawdust into planks, an invention which has recently been revived.

At the end of the last century, such men as Franklin and Noah Webster were interested in the project of a phonetic reformation of the English language, and in 1793 Thornton published his views upon the subject in a prize essay entitled "Cadmus." The Appendix to this is upon "The Mode of Teaching the Deaf, or Surd, and consequently Dumb, to speak," and is, as before mentioned, the first publication of its kind in America.²

In this same year, 1793, Thornton's plans for the Capitol, then about to be built in Washington, were accepted by the President, and work on it commenced at once. Thornton received, for his designs, five hundred dollars and a lot in the city. In 1814, the British burned the still unfinished building. The new Capitol afterwards erected was on a far grander scale than the old one had been, although from drawings still extant, it seems probable that the central portion of the present Capitol was built somewhat on the lines of Thornton's plan.

In 1791, the President had appointed Commissioners to lay out the city of Washington, and to attend to the construction of government buildings. In 1794, Thornton was made one of these officers. From the records it appears that a decided improvement was noticed in all the business of the Commissioners after Thornton's appointment. It also appears that Thornton always insisted very strongly that grandeur was necessary in the capital city of the United States, and it is greatly due to his efforts that Washington is the beautiful city we now know.

² See proceeding of American Philosophical Society, Philadelphia, 1793, Vol. III, pp. 262-319.—M. H. G. B.

In the early days of the Republic, all patents had to be examined by the Secretary of State and two other Cabinet officers. A little later the Secretary of State was in sole charge, but in 1803,³ it was necessary to have a special Superintendent of Patents. Thornton was the first to occupy this position, and to him is due, in a great measure, the present patent system of the United States. The value he set upon the department under his charge is shown in the account of what happened during the invasion of Washington by the British in 1814.

Thornton, seeing that a British gun was being aimed at the Patent Office, rode up to the enemy's ranks, and placing himself in front of the gun, called out, "Are you Englishmen, or Goths and Vandals? This is the Patent Office, the depository of the inventive genius of America, in which the whole civilized world is concerned. Would you destroy it? If so, fire away, and let the charge pass through my body!" By this effort, the records and models of the Patent Office were saved. Thornton carried them off to his country home where he kept them until peace was firmly established.

Thornton died in 1828, leaving no descendants. He was buried in the Congressional Cemetery with the honors paid to Senators and Representatives, his body being followed to the grave by the President of the United States and members of his Cabinet.

³ Mr. Brown gives this date as 1802.—M. H. G. B.

ON TEACHING THE SURD, OR DEAF AND CONSEQUENTLY DUMB, TO SPEAK.⁴

BY WILLIAM THORNTON.⁵

The difficulties under which those have laboured, who have attempted to teach the surd, and consequently dumb to speak, have prevented many from engaging in a labour that can scarcely be exceeded in utility; for some of those to whom nature has denied particular faculties have in other respects been the boast of the human species; and whoever supplies the defects of formation, and gives to man the means of surmounting natural impediments, must be considered as a benefactor. There have been many successful attempts, in diverse nations, to procure to the deaf and dumb the modes of acquiring and communicating ideas.—The methods however are slow and imperfect.—The written and spoken languages are so different, that they become to such pupils two distinct

⁴ First published in 1793, in Volume III of *Transactions of the American Philosophical Society, held at Philadelphia, for Promoting Useful Knowledge*. The essay immediately follows in the *Transactions* a dissertation by the author, of which the following is the complete caption:

“PRIZE DISSERTATION,

which was honored with the Magellanic Gold Medal, by the Philosophical Society, January, 1793.

CADMUS, or a TREATISE, on the ELEMENTS of WRITTEN LANGUAGE, illustrating, by a philosophical Division of SPEECH, the Power of each Character, thereby mutually fixing the Orthography and Orthoepey.

CUR NESCIRE, PUDENS PRAVE, QUAM DISCERE MALO?

Hor: *Ars Poet*: v. 88.

With an ESSAY on the mode of teaching the DEAF, or SURD and consequently DUMB, to SPEAK.”

[In this republication of the essay effort has been made to preserve the spelling, punctuation, paragraphing, and other typographical features of the original publication.] By William Thornton.⁵

⁵ For a sketch of the life of William Thornton, with portrait, see *Association Review*, Vol. II, No. 2.

studies. It is necessary that they acquire a knowledge of objects, by seeing their use, that they also become acquainted with the several words which when written become the representatives of these objects, and besides the difficulties which present themselves in pronunciation, they are to remember that the different words which are written, and sometimes with nearly the same letters, are of different signification; and in speaking require different pronunciations of the same character—this is an obstacle that can not be possibly avoided by the present mode of writing, and the languages become as difficult as Hieroglyphics.

Some of the difficulties of acquiring a language when deaf, may be conceived by those that are experienced in learning foreign tongues, where they are not commonly spoken, although aided by translations and dictionaries; but the man that hears nothing, has not the advantage of a child who learns by the constant chat of his parents and attendants, and who can obtain no pleasures but through the medium of speech—he hears and is constantly learning—to teach him is the amusement of every one; but the deaf receives his stated lessons, difficultly and seldom.—There is no book which by the figures or drawings of things have appropriate terms, nor is there a language which has appropriate characters.—The more I revolve in my mind this subject, the more I am astonished that even the most improved nations have neglected so important a matter as that of correcting their language; I know of none, not even the Italian,⁶ that is not replete with absurdity; and I shall endeavour to shew the

⁶ “Ciascheduno sa, che, come non v’ è cosa, che più dispiaccia a Dio, che l’ingratitude, ed inosservanza de’ suoi precetti; così non v’ è niente che cagioni maggiormente la desolazione dell’ universo, che la cecità, e la superbia degli uomini, la pazzia de’ Gentili, l’ignoranza, e l’ostinazione de’ Giudei, e Scismatici.”

Corrected.

Tfiaskeduno sa, ke kome, non v’ è coza, ke piu dispiatfia a Dio, ke l’ingratitude ed inosservantsa de suoi preetfetti; cossi non v’ è niente ke kadjioni madjormennte la desolatsione dell’ universo, ke la tfetfita, e la superbia del⁷ i omini, la patsia de’ Djentili, l’iniorantsa, e l’ostinat-sione de Djudeei, e fizmatitfi.

⁷ Requires a new character (the aspirate of l).

facility with which the deaf might be taught to speak, if proper attention were once paid to this important point.

I have attempted to shew that in the English language there are thirty characters, and must suppose a dictionary^s according to this scheme of the alphabet, upon which I mean to build

*the Method of teaching the Surd and consequently
Dumb to speak.*

It is necessary to examine first, whether the dumbness be occasioned by merely the want of hearing, or by malconformation of the organs of speech. If the latter there is no occasion to proceed, but if the former be the cause, the method of attempting to remove such an impediment may be pursued in the following manner.

1st, They must be led, if young, to attempt to pronounce, by imitating the motions of children in speaking, and, as every thing at first would appear to them unmeaning, a child who can speak must be told to pronounce the letters, which you desire the deaf child to learn. If you succeed with difficulty, to prevent discouraging the deaf, the child who speaks must be made to pronounce slowly, distinctly, and with many repetitions, that the deaf may suppose the other to be in the same predicament; but if you have two deaf persons to teach at once, the first lessons only need be given in this manner, for the progress of both will be at first perhaps much alike.

2dly, The pupil must be not only sensible when he makes the proper sound himself, but must also be able to distinguish these sounds in others. In teaching to pronounce, you must open the mouth, and shew the situation of your tongue as nearly as you can, then dispose your lips in such a manner as to give the sound, making apparently a more forcible exertion than common. The pupil will try to imitate it. He will make no doubt a sound of some sort, either vocal or aspirate—If that sound be contained in the language you mean to teach him, point immediately to the letter which you find is the symbol, and repeat it so often, that he can neither

^s Mr. Sheridan's or Dr. Kenrick's may give some aid, till a dictionary be published upon this plan.

forget it, nor have any idea of the symbol without that sound, nor of the sound without the symbol.—If the sound be vocal let him feel at his own throat, and at yours, that he may be made sensible by the external touch that the sounds are the same, and he will with more facility be enabled to give the aspirates by pronouncing them without a tremulous motion in the throat, which is the sole external mode of learning him the difference. When you teach the aspirate of any letter by a simple breathing, the organs being somewhat similarly disposed, he perhaps may stumble upon another vocal or aspirate: if so, shew him the letter he obtains by the error, as if you had no intention, in that instance, to teach the letter in affinity with the last; and let him repeat the sound, whether vocal or aspirate, till he is perfectly acquainted with it, and the appropriated character. You must then turn to another, taking care, that while he acquires, he does not forget, and let him often repeat them. When you have proceeded through the greatest part of the letters in this manner, and find that either the vowels or aspirates which correspond to each other are wanted, you must take such as it would be proper to begin with, and I think that none would serve better than v—f; j—sh^o; z—s; th^o—th^o; in which, if the pupil be sensible, he will soon discover a connection, and will be induced to search for the same affinities in the other letters, whether the language he learns contains them or not—It will be necessary, according to the age and disposition of the pupil, to use different methods of disposing his organs; not only by letting him feel, how your tongue is raised to the roof of your mouth, pushed forward, depressed, withdrawn, &c. but also to dispose his, by your fingers, and have a looking glass always present, to shew him wherein he errs in not justly imitating you; and also to let him see when he is right in his efforts. This will teach him what is necessary.

3dly, To know what others say, when they converse with, or ask him any question. This is the most difficult in teaching

^o In the original publication this element is represented by one of the characters of a “universal alphabet” presented and discussed in the preceding dissertation. Not having the character in type, its English equivalent is substituted.

the surd, because most of the letters are formed in the mouth and throat, out of sight; and here vision alone obtains the meaning. The mirror, however, will facilitate much the mode of learning what others say, by the deaf man's conversing with himself before it, but in presence of his teacher, to prevent his making mistakes, in the formation of the true sounds: and there are more guides in acquiring what words are spoken by others, than people in general imagine; for so many of the letters which make a visible effect upon the organs, in their formation, enter into the composition of words, which may indeed contain many that do not make much effect, that if all the former were written down, it would give to the eye, a kind of short-hand; and is almost as easily caught by the watchful eye of the attentive deaf, as short-hand without vowels is read by the experienced stenographer. Both arts require long practice, but both are very attainable.

When he has learned the true sounds¹⁰ of the thirty letters, in the English language, he will be capable of reading as well as of speaking, and he ought to have a catalogue of objects, designed or represented, that he may affix proper ideas to proper terms.—Thus a child may be taught to read, to speak, to understand others, to write, and obtain a knowledge of things at the same time.

The greatest difficulty that the deaf have to surmount, in making a quick progress, in general conversation, has been the want of a proper dictionary, or, rather, of a properly written language; for if they pronounce the letters well, and attempt to join them, so as to read words as they are now written, it would be unintelligible.—The dictionaries of Dr. Kenrick and Mr. Sheridan, would very much assist at present, for the deaf should have an opportunity of acquiring the sounds of words, whenever they were disposed to learn, without being obliged to have recourse to others: but there are many defects, as well as mistakes, in Mr. Sheridan's, and though I have not seen Dr. Kenrick's, I know the manner, and it must also be defective, because in neither work, have letters been invented

¹⁰ See the preceding dissertation, page 280 et seq.; also the table of sounds.

for the sounds not before represented.—If the dumb had the advantage of learning a language properly spelled, every time they read in a book, the sounds would be impressed upon the mind, and reading would offer an eternal source of improvement, both in correct speaking, and in matter; and thus might a person, who had once learned his letters, be capable of reading everything correctly, and a child would not have to learn a language in merely learning to read; thirty sounds only would be required, and he would have no idea of the possibility of substituting a wrong letter in writing, for one which he could properly pronounce; thus, spelling would not be a study in writing. I speak now, not only in favor of the deaf and consequently dumb, but of all others, who have not yet learned to read. Some of these ideas I have often repeated, but repetition is admissible, when we consider with how much difficulty truth is made to grow in a soil where prejudice has permitted error to take deep root.

Many of the dumb learn to communicate by their fingers, forming an alphabet, by pointing at each finger, by shutting them separately, by laying various numbers of fingers upon the other hand, first on one side, then on the other, and by different signs, passing through the whole scale of sounds—and composing words by visible motions, which are agreed upon by a friend. They also write, and learn the meaning of things, by referring to the representatives of words instead of the words themselves, and the meaning of things would be as easily taught by this mode as by the ear, provided there were as much repetition in one case as in the other.

It is necessary, that the dumb have each a book, in which should be written under proper heads, the names of familiar objects, and under them those things which have a connection, beginning with genera, and descending to species.

As the pupil will be taught to read, to speak, to write and understand things at once, the teacher should force him to leave no name unpronounced, unwritten, or unread; and the pupil should be, at the same time, taught to observe the motions made by the organs of speech in his preceptor, and likewise to examine his own in a glass, and to draw the object,

It would be proper to have large tables of classes, in the following manner, which would occupy the side of a room.

ANIMALS						
Mankind		Beasts		Birds	Fishes	Rept: Insects, Amph:
Man, woman child,	Carnivorous	Graminivorous	water	Birds of prey	Sea, fresh water	
	Lion Tyger, &c.	Horse Horned Cattle fowl	&c.			
	He-she,	He-she, Horse, Mare, Bull, Cow, Foal	Sheep, &c.			
		Calf	Ram, Ewe			
			Lamb			
VEGETABLES						
Trees		Shrubs		Plants		
MINERALS						
Platina	Gold	Silver	Copper	Tin	Lead	&c.
STONES						
Diamond	Sapphire	Ruby,	Topaz	Emerald &c.	Flint	Calcareous, &c.
EARTHS						
Vegetable	Okres or Calcees		Clays	Marles	&c.	

which may be done in a book either arranged according to the use of the thing, or put promiscuously with its name written under; and if the word be incorrectly spelled, to write it properly besides, or look in one of the corrected dictionaries. All these methods will impress his mind so strongly, that he will seldom have occasion to refer to his book; and by this method he will also attain to a great proficiency in drawing.

The actions and passions should be acted to the pupil, and no movement made without shewing its meaning, and noting it down by writing, that words may increase in exact proportion to the increase of knowledge, and the progress which a student will make by this method will in a short time be astonishing.

If a teacher were to undertake the instruction of several at once, which would indeed be most advisable, it would be exceedingly proper to procure as many prints or drawings of common objects as could be had, and even of the same objects in different postures and positions, with the name and action written beneath, and these arranged under different heads according to their relation to each other. The walls of the room might be covered with them, screens, portfolios and books also contain others, to which they might constantly have access. Colors ought also to be painted in squares, with their names attached, after them the shades and the various colors obtained by mixing simple bodies. They ought also to go through various courses of natural history, natural and experimental philosophy, including chemistry, by which they will see the extensive variety that even artificial mixtures and combinations of bodies will produce. The names, the processes, and results should be written, that nothing be lost. Space and time should be measured, and all the parts of discourse made familiar by examples, as a sensible man would see occasion.

The utility of attempting to teach the dumb to speak, has indeed been disputed by many, not only on account of the difficulties which are judged insurmountable, the imperfect manner in which the pupils articulate, and the disagreeable noise

they make in endeavouring to pronounce, but also on account of the difficulty with which they understand what others say, more especially when they can be comprehended so well by writing, and made useful members of society by drawing.—The imperfect manner in which they speak depends not upon the pupil, if of common capacity, but upon the teacher; and I am confident, from short trials I have made, that the art is to be perfectly obtained by the foregoing method. The difficulty of understanding what others say I have already considered (page 410 art. 3d) and though writing is a very necessary qualification, yet pen and paper are not always at hand. Drawing I approve of, as useful to every one, and perhaps more particularly so to a person whose want of natural faculties deprives him of many sources of amusement. But speech is so useful upon every occasion, that to attain it is to facilitate the very means of existence: for if a deaf man was even always provided with a book and pencil he would often meet with persons who could not read, and one sentence if only imperfectly spoken would convey more meaning than all the gestures and signs which would be made.

A deaf person not perfectly skilled in reading words from the lips, or who should ask anything in the dark would be able to procure common information by putting various questions, and by telling the person that, as he is deaf, he requests answers by signs, which he will direct him to change according to circumstances.—If he had lost his way, if he enquired for any one, if he wanted to purchase anything, and in all the common occurrences of life, his speech would be so useful, that it would certainly more than repay the trouble of obtaining it; especially as it would be a mode of facilitating every other acquirement.